Final Report

of the

EPA Emission Inventory Workshop

August 18-19, 1998

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Disclaimer

This report has been reviewed by the Emission Factor and Inventory Group of the Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, and approved for publication. Mention of trade names or commercial products is not intended to constitute endorsement or recommendation for use.

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Section 1
Introduction

The U.S. Environmental Protection Agency (EPA) Emission Inventory Workshop was held on August 18 and 19, 1998, in Chapel Hill, North Carolina. The workshop was presented to provide the inventory community with the EPA's most current information on the proposed Consolidated Reporting Rule; the National Ambient Air Quality Standards (NAAQS) for ozone and particulate matter (PM); the upcoming air toxics and PM with an aerodynamic diameter less than or equal to 2.5 micrometers ($PM_{2.5}$) inventories; the National Emission Trends (NET) Inventory; and inventory tools including implementation guidance, EPA's emission estimation tools, data management tools, and the new Source Classification Code (SCC) system. Representatives of EPA's Emission Factor and Inventory Group (EFIG) gave technical presentations on each of these topics.

The workshop also provided attendees from state and local air pollution control agencies the opportunity to ask questions and discuss concerns related to the topics presented. The second day of the workshop was devoted to four discussion groups, each led by an EFIG representative. The discussion group topics were: $PM_{2.5}$ overview; $PM_{2.5}$ and ozone NAAQS and the Consolidated Reporting Rule; air toxics; and data management and the new SCC system.

A copy of these workshop notes will be provided to each of the participants. This document will be posted on the EPA's emission inventory World Wide Web site at **www.epa.gov/oar/oaqps/efig/ei**.

Section 2
Technical Presentations

A series of technical presentations was made on the first day of the workshop to discuss the work being done by EPA's Emission Factor and Inventory Group (EFIG). The purpose of the presentations was to share with the state and local agencies EPA's work and perspective on various inventory-related topics and to communicate to the agencies requirements that may affect them in the future. A brief summary of each presentation follows.

Opening Address
Bill Hunt, EPA, Emissions Monitoring and Analysis Division

Mr. Hunt welcomed the workshop attendees and stressed the critical role that emission inventories play in air quality management. He identified the new standards for ozone and particulate matter and the air toxics program as examples of programs that will require complete, accurate emission inventories to serve as the foundation of air quality management policy. Emission inventories will be used to measure progress for the Government Performance and Results Act (GPRA) and emissions trends. Emission inventories are also critical in risk assessments, assessing permit fees, and emissions trading programs. It is very important that inventories are correct. Mr. Hunt stressed the importance of data quality checks and stated that EPA can and will help evaluate inventories.

Mr. Hunt discussed the interaction of emission inventories, ambient air monitoring, and modeling in air management programs and appealed for increased communication and cooperation among those who support these three areas.

Keynote Address: Importance of Good Emission Databases

Dr. Harvey Jeffries, Department of Environmental Sciences and Engineering, University of North Carolina at Chapel Hill

Dr. Jeffries stated that emission inventories are the most critical tool for making air management policy. Public policy decisions rely on models to evaluate current conditions and predict the impact of regulation. These models in turn are dependent on valid assumptions and valid data.

When building air quality models, modelers make assumptions, use generalizations, and delete information believed not to be important in the analysis. The resultant models are mixtures of science and engineering that mimic reality and can be used to make predictions. Models cannot be verified; models can only be proven to be incorrect. The output of air quality models is related to the quality of the input data. Current meteorological, geological, and chemical data are of high quality. What modelers need now is good inventory data that are appropriately temporally and spatially allocated. States and localities are increasingly dependent on one another for shared data.

The air quality modeling community faces three issues in its efforts to generate the data required to drive correct policies:

- The difficulty of applying specific or limited data to large areas;
- The issue of nitrogen oxides (NO_x) inhibition; and
- The lack of high quality inventory data that are temporally and spatially allocated.

Copies of the slides for Dr. Jeffries' presentation are available at **http://airsite.unc.edu**.

Proposed Consolidated Emission Inventory Reporting Rule

Steve Bromberg, EPA, Emission Factor and Inventory Group

Mr. Bromberg stated that this rule will add legitimacy to gathering data for emissions inventory purposes. If the states collect sufficient data to satisfy air quality modeling needs, the rule will ensure that more than 95 percent of the data needed by EPA will be collected. The rule was developed in consultation with:

- A work group composed of three states, EPA Regional Offices, EPA's Office of Air Quality Planning and Standards (OAQPS), and EPA's Office of General Council (OGC);
- Standing Air Emissions Work Group (SAEWG);
- EPA's Air Quality Strategies and Standards Division (AQSSD); and
- Individual states.

The proposed Consolidated Reporting Rule will succeed now while previous efforts have not because:

- It builds on the success of Ozone Transport Assessment Group (OTAG);
- It allows for the flexibility in data collection and reporting offered by the Emission Inventory Improvement Program (EIIP);
- It provides for new data acquisition procedures;
- The data system is user-friendly;
- GPRA will force federal and state agencies to collect toxic-related data; and
- Better working relationships exist between EPA and state and local agencies.

In addition, the data that will be reported under the rule will be used not only by an individual state, but will also be needed by EPA and neighboring states for modeling purposes.

The rule also provides a "cover" in the sense of additional justification for states in the case of legislatures when it comes to maintaining inventory staff and resources.

Changes in requirements resulting from the proposed rule include:

- Geographic coverage for area and mobile sources;
- Frequency of reporting;
- Number of data elements;
- Type of pollutants reported;
- Methods of data reporting; and
- The burden on state and local agencies. A state's burden will more than double in the first 3 years for states that have not developed statewide inventories in the past.

The rule has been approved by OAQPS and is currently under review by OGC and the Office of Management and Budget (OMB). The rule will be proposed in the *Federal Register* approximately 6 weeks after the reviews are completed.

Emission Inventory Implementation Guidance for Ozone, Particulate Matter, and Regional Haze

Bill Kuykendal, EPA, Emission Factor and Inventory Group

Mr. Kuykendal began by stating that guidance documents should be helpful, clear, and instructive. In response to the 1990 amendment of the Clean Air Act, EPA published requirement and procedural documents. These documents were viewed by the states as too prescriptive and data submittal to EPA was very difficult. The guidance documents produced by the EIIP represent a more flexible approach, providing both preferred and alternative inventory methods. EPA considers the EIIP documents to be the currently recognized procedural guidance

documents, a substitute for the previous EPA procedural guidance. The EIIP procedural documents are available at **www.epa.gov/oar/oaqps/eiip**.

The purpose of the new guidance documents that EPA is currently developing is to define the elements of an emission inventory that must meet State Implementation Plan (SIP) requirements for complying with the new ozone and particulate matter NAAQS and the regional haze regulations. The contents of this document will be coordinated with the requirements of the Consolidated Reporting Rule and will define the requirements for compiling and reporting the emission inventories to EPA. The guidance document development process is still in the early stages; information included in the proposed outline is subject to change. An advisory panel including representatives of OAQPS, EPA Office of Mobile Sources (OMS), EPA Regional Offices, and several states has been formed to provide input on the content of the document although EPA has ultimate responsibility. The intent is to publish the final document by December 31, 1998.

The NAAQS guidance document will advocate close cooperation between the modeling effort, writing the SIPs, and doing the emissions inventories. The guidance will also encourage advances in temporal (seasonal for ozone, annual for PM), spatial, and chemical allocations.

Information to be discussed in the guidance document will include:

- Pollutants and precursors to be inventoried—sulfur dioxide (SO_2), NO_x, volatile organic compounds (VOCs), carbon monoxide (CO), PM with an aerodynamic diameter less than or equal to 10 micrometers (PM_{10}), $PM_{2.5}$, ammonia (NH_3), elemental carbon, and organic carbon;

- Geographic coverage—unlike previous inventory efforts, statewide inventories for point, area, mobile, and biogenic/natural sources will be required at the county level for all states regardless of attainment status;

- Inventory year—ozone and $PM_{2.5}$ are set in principal for 1996 and 1999, respectively, and every 3 years thereafter; and

- Data elements—same as those for the Consolidated Reporting Rule, that are sufficient to support regional-scale modeling.

$PM_{2.5}$ Overview

Tom Pace, EPA, Emission Factor and Inventory Group

Mr. Pace summarized the current status of $PM_{2.5}$ inventories, the needs for inventory improvement, and EPA's current efforts to support state and local agencies' inventory efforts.

Current inventories and modeled estimates of $PM_{2.5}$ point to crustal sources (i.e., soil and dust from roads, construction, agricultural operations, and erosion) as the dominant sources of $PM_{2.5}$. However, monitoring results show that $PM_{2.5}$ compositions from around the United States are dominated by carbonaceous and sulfate particles. This disparity highlights the need for improvements in $PM_{2.5}$ inventories.

Priorities for improved inventories are:

- Emphasis on meeting the needs of the SIP planners;
- Identifying sources for each pollutant and its precursors;
- Improving emission estimation methods for important source categories;
- Developing $PM_{2.5}$ inventory tools and guidance; and
- Developing the Area Source Emissions Model (ASEM) for $PM_{2.5}$ area source emissions.

The newly formed EIIP $PM_{2.5}$ Committee has begun work on a $PM_{2.5}$ White Paper to define the issues that need to be addressed. This will include evaluation of available emission factors and methods for direct emissions of $PM_{2.5}$ and $PM_{2.5}$ precursors. The White Paper will identify the priorities for $PM_{2.5}$ inventory programs. A draft for external review should be available in October 1998.

The ASEM is being developed as an estimation tool for direct emissions of $PM_{2.5}$ and $PM_{2.5}$ precursors, and should be useful for both $PM_{2.5}$ and regional haze studies. The model will include factors and default activity information, and will estimate emissions for several dozen key source categories.

National Air Toxics Emissions Inventory
Laurel Driver and Anne Pope, EPA, Emission Factor and Inventory Group

Ms. Laurel Driver began by explaining that the Clean Air Act (CAA) does not explicitly mandate the development and maintenance of air toxics inventories or national air toxics databases. However, the CAA requires the EPA to identify the sources, quantify the emissions, and assess the public health and environmental impacts of over 188 hazardous air pollutants (HAPs), which are referred to as air toxics. For example, under Sections 112(b) and (d), EPA must develop a list of HAPs and source categories emitting HAPs. EPA must also track the progress of the maximum achievable control technology (MACT) programs. In another example, Section 112(f) requires EPA to do a risk analysis (based on HAP emissions) 8 years after promulgation of a MACT standard.

The National Toxics Inventory (NTI) will help EFIG satisfy many of these CAA requirements because it is a repository of national air toxics data for major (point), area, and mobile sources for all 188 HAPs. The 1993 base year NTI (1993 NTI) will serve as a baseline for tracking major and area source emission reductions achieved by the MACT program. The 1996 base year NTI (1996 NTI), currently being compiled by EFIG, will contain facility-specific HAP emissions. The 1996 NTI will allow EFIG to track emission reductions by source category and provide emissions that can be used in modeling ambient air toxics concentrations.

The NTI will serve as a tool to monitor progress towards attainment of the various GPRA objectives. By the year 2010, EPA hopes to achieve a 75 percent emissions reduction from 1993 levels in order to reduce cancer risks and other health hazards. Progress will be monitored using

annual estimates of HAP emissions and reductions based on the data contained in the NTI. Long-term GPRA goals are to reduce air toxic-related risks for at least 95 percent of all Americans.

In order to evaluate air toxic risks, the EPA has developed the Cumulative Exposure Model, which is a dispersion model that can be used to calculate ambient air toxic concentrations. These concentrations can be used as benchmarks to determine whether or not ambient air levels are safe. EPA's Office of Policy Planning, and Evaluation (OPPE) used the original exposure model, CEPI, to predict 1990 ambient air toxic concentrations. OPPE used a variety of broad data resources, including the Toxic Release Inventory (TRI) and the air emissions species database SPECIATE, to develop the national air toxic emission estimates for 1990 that were fed into CEPI model. In contrast, OAQPS will populate the current exposure model, CEPII, with 1996 facility-specific data rather than general national emissions data (like those used to develop the 1990 levels) in order develop 1996 census-tract concentrations. The 1996 NTI will provide the baseline facility-specific emissions that are modeled with CEPII.

Ms. Anne Pope then presented the characteristics, data sources, and schedule for the 1996 NTI, which will include facility-level emissions for major (point), area, and mobile sources for each of the 188 HAPs. The estimates will be generated at the county level for all 50 states. EFIG is presently developing area and mobile source HAP estimates for most states because the majority of states can only provide major source data.

The hierarchy of data sources that will be used to complete the 1996 NTI for major sources, are, in order of preference:

- State and local HAP inventories;
- MACT data;

- Industry data; and
- TRI data.

If none of these four data sources offers adequate information for some source categories, EPA will use emission factors and source category activity data to generate estimates.

In an effort to obtain the highest quality data for the 1996 NTI, EPA contacted each state in March 1998 and requested facility-specific HAP data for 1996. EPA collected 38 HAP inventories representing primarily major sources for 34 states. There are data gaps in the 1996 NTI because all states were not able to provide 1996 base year toxics data and many of the inventories submitted by the states do not cover all of the sources, HAPs, or geographical regions in their state. Most of the inventory data provided by states include the following facility-level data:

- Actual annual emissions by HAP or Chemical Abstract Service (CAS) number;
- Facility identification;
- Standard Industrial Classification (SIC) code;
- Facility location;
- Source Classification Code (SCC);
- Stack parameters;
- Control devices; and
- Emissions release type (e.g., stack, fugitive).

In addition to streamlining the data into a common Oracle® format consistent with the National Emissions Trends (NET) database, EFIG is in the process of adding MACT category codes for relevant facilities based on the Aerometric Information Retrieval System (AIRS) four-digit MACT codes. This important step will enable EPA's Emission Standards Division to track HAP emissions trends at MACT facilities.

Ongoing EPA activities that will support states compiling statewide HAP emission inventories include:

- Development of a guidance document for constructing HAP emission inventories;
- Proposal of the Consolidated Reporting Rule; and
- Implementation of air toxics monitoring and development of HAP inventories as part of fiscal year 1999 (FY99) Section 105 grant funding.

Plans for activities in FY99 to improve the 1996 NTI include:

- Performing quality assurance/quality control (QA/QC) of major source data;
- Filling data gaps; and
- Obtaining additional state data.

Ms. Pope requested that workshop participants be prepared to discuss three questions in the small discussion groups for air toxics inventories:

- For air toxic emission information that was submitted by your agency (state or local), how were the data collected and prepared?
- What restrictions limit the amount of air toxic emission data that your agency can collect and provide?
- What information can EPA use to estimate air toxic emissions where state or local air toxic emission data are lacking?

Data Transfer Options and the NET Database

Lee Tooly, EPA, Emission Factor and Inventory Group

Ms. Tooly presented an overview of the options for data transfer and the logic behind development of several options for states to electronically submit their data to EPA. The current data transfer options are:

- AIRS/Airs Facility Subsystem (AFS)—this option has been used for transferring SIP and annual emission inventory data to EPA. This option can be used to transfer only point source data. EPA will take the data in AFS and transfer it to the NET. More information on the use of this option may be found on the World Wide Web at **www.epa.gov.ttn/airs**.

- NET Input Format—this new option has recently been made available. This is the recommended option at this time. However, it should be noted that point source data submitted to the NET will not be transferred to AFS. More information on using the NET Input Format may be found at **www.epa.gov/oar/oaqps/efig/ei**.

- EIIP Electronic Data Interchange (EDI) X12—this format is being used in a pilot demonstration project under the Data Management Committee of EIIP. Two states, California and Pennsylvania, are currently using EDI to send their data to EPA. It appears that EPA may establish EDI infrastructure across the Agency, especially to support data reporting from industry. More information on using the EIIP EDI X12 format may be found at **www.epa.gov/oar/oaqps/eiip** and also **www.epa.gov/ec.edi**.

- NET Text Overwrite File—this option involves editing or completely replacing (overwriting) the 1996 NET inventory in the format in which it was distributed to the states from EPA. More information on using the NET text overwrite file may be found at **www.epa.gov/oar/oaqps/efig/ei**.

The new Oracle® NET database was based on the EIIP data model. It is an internal EPA system and has no calculational capabilities. EPA foresees future capability for states to be able to download summary reports from the NET database, but it will not become an interactive tool for states to use to manage their air emissions inventory data. The Oracle® "script" used to create the NET database will soon be available for state or local agencies to use. However, the script

will only create a "shell" database and will contain no data or calculational capabilities. States may then customize the database at their discretion.

Changing the SCC System

Ron Ryan, EPA, Emission Factor and Inventory Group

Mr. Ryan presented the background on the need for a universal categorization scheme and identified some of the pitfalls of the current SCC system. These include:

- Both the SCC and Area and Mobile Source (AMS) code systems have lost much of their original organization;
- The same process can have different codes because throughput units differ;
- It is difficult to describe processes consistently; and
- The system is difficult to maintain.

The EIIP subcommittee on revising the SCC system has made several decisions concerning the new system codes, which will be known as Process Classification Codes (PCCs):

- The need to create a new system, not revise the current SCCs;
- Point and area source codes should be integrated;
- Non-source description information should be eliminated;
- Source information will be separated into four discrete data elements—site type (type of point source facility or area source category); equipment type (type of individual piece of equipment or typical aggregation of equipment); material (type of material burned, stored, handled, produced); and emission process (breathing, working, combustion); and
- Code numbers will not indicate hierarchy—this allows for infinite subcategorization and an infinite number of "roll-up" schemes.

The implications of changing the SCC system will be far-reaching and many systems will be affected. EPA will help ease the transfer by developing two tools to be used to help change over to the new PCCs. The first will be cross-reference tables showing how current SCCs may correspond to the new PCCs. The second will be software developed to help identify which codes should be used for a specific process. However, Mr. Ryan pointed out that there will not necessarily be a one-to-one match between the existing SCCs and the new PCCs.

National Emission Trends (NET) Inventory
Sharon Nizich and Gregory Stella, EPA, Emission Factor and Inventory Group

Ms. Nizich described the NET as a dataset developed from the Interim Inventory and state agency data that was created to assist EPA in the development of the ozone and PM NAAQS and as a starting point for states to develop 1996 periodic emission inventories (PEIs). The NET is used by states, EPA, regional organizations such as the Southern Appalachian Mountain Initiative (SAMI), modeling centers such as Oak Ridge, industry, and the European Union Environmental Group.

The NET contains information including estimates predicted from the 1985 National Acid Precipitation Assessment Program (NAPAP) inventory, real data from 1996, and estimates for 2010 for:

- Point source data—plant information at the SCC level for utilities and non-utilities;
- Area source data—at the county level by SCC; and
- Mobile source data—for onroad and nonroad sources.

Details concerning methods used to generate data and how to obtain the report for a state can be found at **www.epa.gov/ttn/chief/ei_data.html**.

Mr. Stella discussed planned revisions to the NET to be made in FY99 and beyond. These include:

- Quality assurance checks, particularly of point source data;
- Revision of modeling parameters to make the inventory more user-friendly;
- Conversion of the NET procedures document to Plain Language;
- Incorporation of 1996 PEI data for point and area sources; and
- Refinement of categories for fugitive dust and $PM_{2.5}$.

Mr. Stella encouraged all states to review the data in the NET and send revisions as appropriate.

Introduction to Air Emission Estimation Tools

Dwight Bailey, Lockheed Martin

Mr. Bailey presented an overview of the tools available through EPA to assist in inventory preparation. These include:

- AP-42 Volumes I and II—contain criteria and HAP emissions information including the types of sources emitting air pollutants, process descriptions, identification of potential release points, and emission factors for controlled and uncontrolled processes. AP-42 is available for download from **www.epa.gov/ttn/chief**;
- EIIP Procedural Documents—series of seven volumes presenting preferred and alternative emission inventory methods. These documents are available for download from **www.epa.gov/oar/oaqps/eiip**;
- Locating and Estimating (L&E) Series—peer-reviewed reports containing information on sources emitting HAPs, process descriptions, identification of potential release points, and emission factors for controlled and uncontrolled processes. These documents are available for download from **www.epa.gov/ttn/chief**;

- Factor Information Retrieval System (FIRE) Version 6.0—is available for download from **www.epa.gov/ttn/chief**. Updates will include a Windows® version format, a searchable database containing EPA's recommended emission factors for criteria and toxic pollutants, emission factors through Supplement C of AP-42, and a complete SCC listing;

- TANKS Versions 3.1 and 4.0—calculational software to estimate emissions from organic liquid storage tanks; version 4.0 is Windows®-based, available for download from **www.epa.gov/ttn/chief**;

- Air Clearinghouse for Inventories and Emission Factors (CHIEF) Compact Disk-Read Only Memory (CD-ROM) 5.0—contains the EIIP procedural documents; AP-42; AP-42 background documents; L&E documents; SCC list; SIC Code list; and install copies of FIRE, TANKS, Personal Computer version of the Biogenic Emissions Inventory System (PC BEIS), WATER8, and CHEMDAT8. Contact Info CHIEF for information about how to obtain the CD at 919-541-5285, via e-mail at **info.chief@epa.gov**, or via the World Wide Web at **www.epa.gov/ttn/chief**;

- Air CHIEF CD-ROM 6.0—due for release in October 1998, Version 6.0 will feature improved functionality and include Volume II of AP-42 (Mobile Sources) and Adobe® conversions of AP-42 Volume I background documents and L&E documents;

- Emission Inventory Training CD—is designed as a training or reference tool for state and local agencies. It is based on the EIIP guidance documents and other inventory guidance references. This CD is not yet available. Check with Info CHIEF for updates on the status;

- Fax CHIEF—inventory preparers can call Fax CHIEF to request documents. Available documents include Volumes I and II of AP-42, mobile source documents, technical papers, and newsletters. The requested document will be faxed to you. From a fax machine, call 919-541-5626 or 919-541-0548. Request document 000001 for a complete list of available documents;

- EFIG List Server—e-mail list to receive the CHIEF newsletter and EFIG news updates. To subscribe, e-mail a message to "listserver@unixmail.rptnc.epa.gov" and type "Subscribe CHIEF *Firstname Lastname*"; and

- Info CHIEF Help Desk—offers help with databases and CD-ROMs, assistance to find emissions and inventory materials, and help with the CHIEF World Wide Web site and downloading files. Call 919-541-5285; fax 919-541-5680; or send e-mail to "info.chief@epa.gov".

Section 3

Workshop Discussion Groups

For the purpose of discussion, the workshop attendees were divided into four groups. Each of these groups met with a series of EFIG representatives to ask questions and comment on the following topics:

- $PM_{2.5}$ Overview, moderated by Tom Pace;
- New NAAQS and the Consolidated Reporting Rule, moderated by Steve Bromberg and David Misenheimer;
- Air Toxics, moderated by Anne Pope and Laurel Driver; and
- Data Management and the New SCC System, moderated by Lee Tooly and Ron Ryan.

$PM_{2.5}$ Overview
Moderated by Tom Pace

Participants were given the opportunity to provide feedback on the questions:

- What can EPA do to help state and local air agencies with their $PM_{2.5}$ inventories? and
- What can the state and local air agencies be doing now on their $PM_{2.5}$ inventories?

Major issues that were discussed, questions, and action items on these topics are summarized below.

EPA should provide:

- Guidance for all aspects of the $PM_{2.5}$ inventories that should include:
  - ♦ General overview of $PM_{2.5}$ and what needs to be done to produce an emission inventory. Questions to be answered are:
    - ▸ What is $PM_{2.5}$ and how does it differ from PM_{10}?
    - ▸ What are the direct pollutants and precursors for $PM_{2.5}$?
    - ▸ What are the sources of direct and secondary $PM_{2.5}$?
    - ▸ Do states need to calculate secondary emissions, or just estimate the emissions of precursors? Mr. Pace stated that states will need to inventory only the direct emissions and precursors of $PM_{2.5}$.
  - ♦ More detailed guidance related to $PM_{2.5}$ inventory issues including:
    - ▸ Source testing methods, including methods for condensables;
    - ▸ $PM_{2.5}$ emission factors and control efficiencies;
    - ▸ Sources and the estimation methods for ammonia emissions;
    - ▸ Data formats and how the inventory data will be fed into models;
    - ▸ Temporal allocation of emission estimates; and
    - ▸ Controls and control strategies. Information about controls should include the mechanics of calculations for the application of controls and information about how different controls affect the proportions of particle sizes that are emitted.

    Mr. Pace stated that information about pollutants and sources will be in the MODELS3 package. The ASEM should also be helpful in identifying and estimating area sources. A beta version of the ASEM should be available 1 year from now. Inventory preparers should use the AP-42 Appendix B as a resource for particle size distributions.
- Roadmap or crosswalk of the all available emission tools including guidance on how to relate the tools to the tasks.
- Support in response to the following policy-related needs issues:
  - ♦ A time line for inventory submission, SIPs, and other milestones. Mr. Pace suggested that the states look to the Consolidated Reporting Rule for information. The base year should probably be 1999 and the inventory should be submitted around 2002 to 2003;

- ♦ Policy guidance to the EPA Regional Offices;
- ♦ A clear mandate to inventory emissions of ammonia and other $PM_{2.5}$ precursors, which the states need; and
- ♦ Has the EPA considered any ways to reduce the burden by fitting requirements for the $PM_{2.5}$ inventory with other inventories?

- Training—areas of need were identified and formats were suggested:
  - ♦ Training for ASEM and the Highway Vehicle Particulate Models PART5/PART6;
  - ♦ Training on how to use EPA $PM_{2.5}$ inventory guidance;
  - ♦ Training could be through satellite courses, computer-based courses, workshops, and video conferencing. Satellite and computer-based courses have the advantage of being cheaper, but workshops allow for interaction. It would be best for workshops to be held at EPA Regional Offices or at states' offices;
  - ♦ Training should be aimed at individual state's needs when possible; and
  - ♦ EPA should prepare brochures that can be sent to facilities to explain new requirements for reporting $PM_{2.5}$.
- Funding for additional efforts.

EPA should be:

- Exploring ways to use the global indexing system (GIS) for area source activity data.
- Improving communications between all of the players: state, local, and EPA headquarters and Regional Offices. Suggestions were:
  - ♦ Inventory managers should subscribe to the CHIEF newsletter and the Info CHIEF list server to stay current on new developments;
  - ♦ An EPA Regional Office contact for $PM_{2.5}$ inventories should be identified; and

- ♦ The EPA needs to coordinate $PM_{2.5}$ research and help with the distribution of results.

States should begin to:

- Use the draft $PM_{2.5}$ emission inventory to identify priority categories. Look on: **www.epa.gov/oar/oaqps/efig/ei/** for the draft 1996 emission inventory (prepared by EPA), which includes $PM_{2.5}$ estimates, by county, for the entire United States;

- Research methods, factors, and particle size distributions that will be important in their states. The California Air Resources Board (CARB) has some particle size distribution and speciation tables available: **www.arb.ca.gov/emisinv/eib.htm**;

- Use PM_{10} inventories (if available) as a starting point for characterizing $PM_{2.5}$ sources. Relative contributions of source categories will differ for $PM_{2.5}$ and PM_{10}. Size distribution estimates and $PM_{2.5}$ emission factors are available from AP-42, CARB, and EIIP;

- Look at inventories of other pollutants for methods, activities, and control information that can be used to characterize $PM_{2.5}$ sources; and

- Begin planning overall approach to $PM_{2.5}$ emission inventory development:

  - ♦ Review the results of air monitoring in your region. See Figures 3-1 and 3-2;

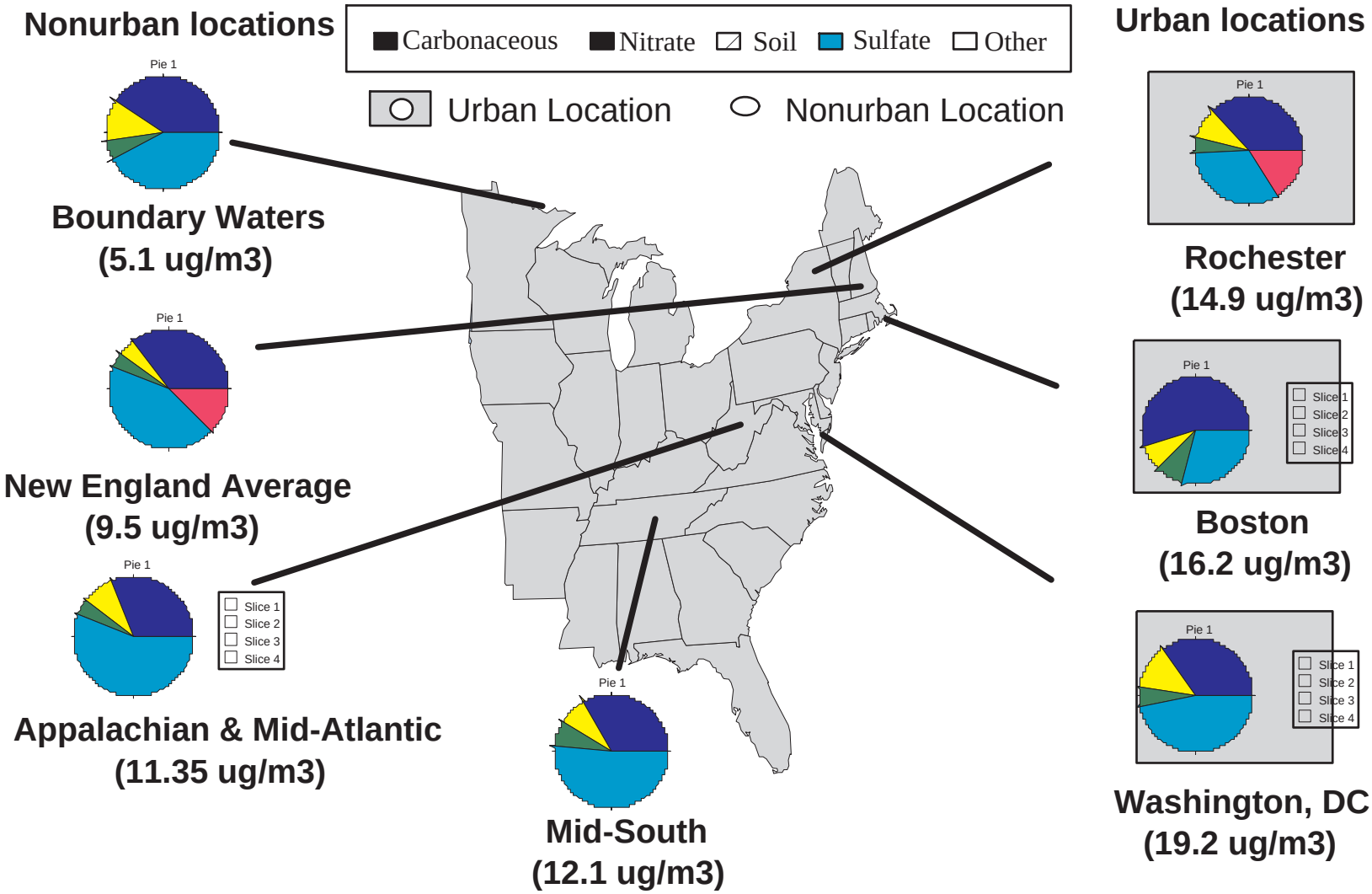
  - ♦ Start investigating the following categories:

    - ▸ Open burning;
    - ▸ Accidental fires;
    - ▸ Heating (residential and commercial);
    - ▸ Point sources;
    - ▸ Fugitive dust;
    - ▸ Ammonia sources; and
    - ▸ Industrial area sources.

  - ♦ Further planning can include defining the scope, for example, of area source combustion sources:

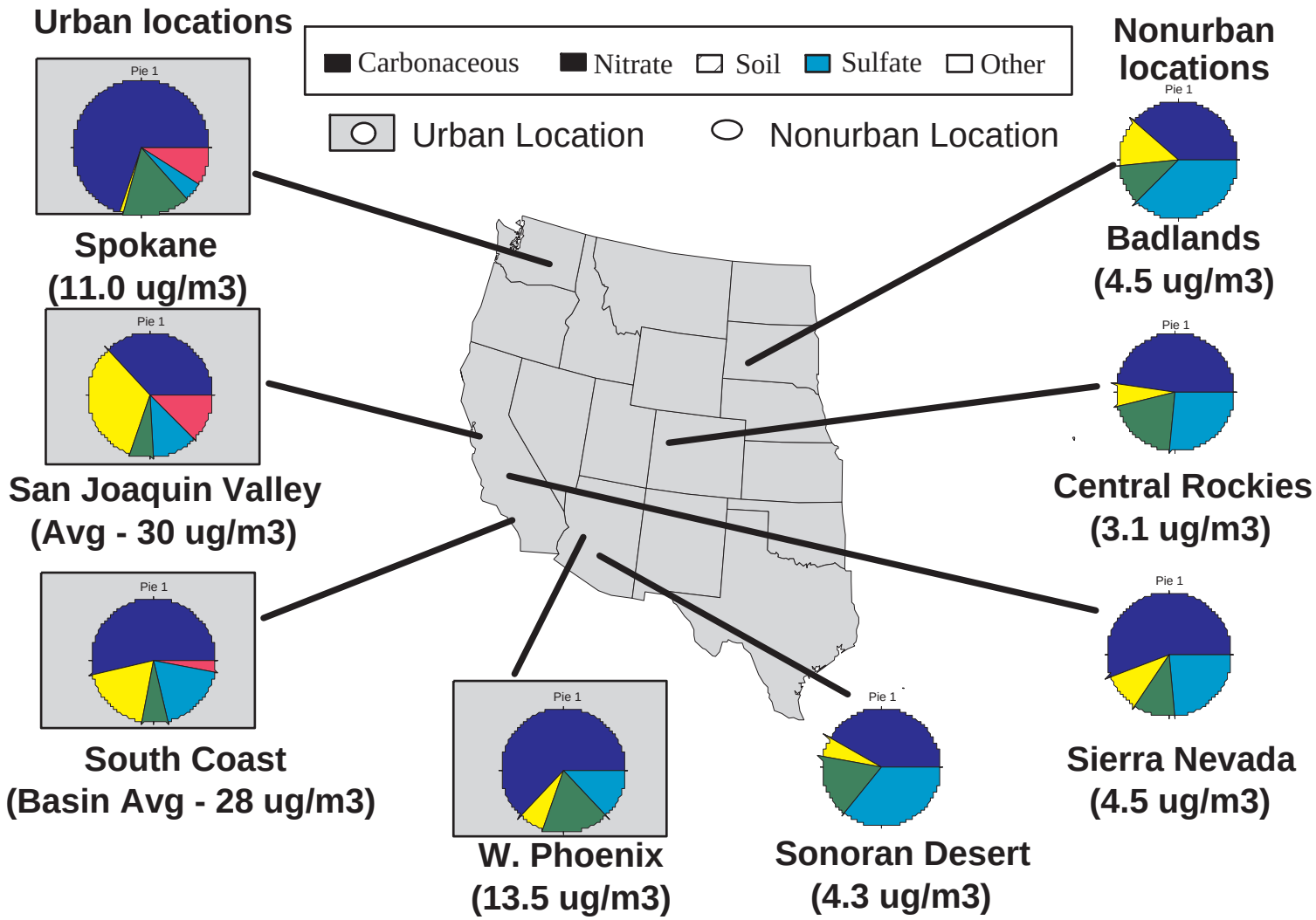
    - ▸ Contacts;
    - ▸ Types of burning;
    - ▸ Locations;

Figure 3-1. PM-2.5 Composition in the Eastern United States



Note: PM-2.5 mass concentrations are determined on at least 1 year of monitoring at each location using a variety of non-Federal reference methods. They should not be used to determine compliance with the PM-2.5 NAAQS.

Figure 3-2. PM-2.5 Composition in the Western United States



Note: PM-2.5 mass concentrations are determined on at least 1 year of monitoring at each location using a variety of non-Federal reference methods. They should not be used to determine compliance with the PM-2.5 NAAQS.

- Quantity;
- Timing/duration;
- Burn practices;
- Databases;
- Smoke management reports;
- Rules and rule effectiveness;
- Controls and control efficiency; and
- Alternative disposal practices.

♦ In addition to information collection, inventory planning can begin by:

- Developing strategies to gather information;
- Identifying needs and approaches to improve activity data;
- Identifying "representative areas" for surveys, etc.;
- Identifying QA/QC issues and defining the inventory's QA/QC plan; and
- Using EIIP documents for the general approach and for specific categories (e.g., residential wood burning).

New NAAQS and the Consolidated Reporting Rule

Moderated by Steve Bromberg and David Misenheimer

Participants were given the opportunity to provide feedback on:

- The *Emission Inventory Implementation Guidance for Ozone, Particulate Matter, and Regional Haze* document; and

- The proposed Consolidated Reporting Rule.

Major issues that were discussed, questions, and action items on these topics are summarized below.

$PM_{2.5}$ Guidance and Emission Factors and Reporting

- Many participants requested that EPA develop guidance on how to develop a $PM_{2.5}$ emissions inventory. There was a general agreement that in comparison to the National Emission Trends (NET) data, states are better positioned to develop

emissions estimates at the state and local levels, given that EPA provides the necessary tools and funding.

- Some participants expressed concerns that state regulations prohibit many agencies from collecting information (and developing inventories) for pollutants other than those for which there are NAAQS standards. Moreover, there is a concern that industry has historically been reluctant to voluntarily provide information that is not required by a mandate, and such reluctance will make it hard for agencies to request information to estimate emissions from a variety of pollutants, mainly ammonia.

- One participant suggested that grant funds be used to hire outside contractors to develop regional and/or local emission factors for $PM_{2.5}$.

- Participants expressed concerns over the lack of adequate guidance and tools for developing emissions inventories for the proposed base year. They indicated they cannot begin gathering the activity data for the $PM_{2.5}$ inventory until the appropriate emission factors have been developed.

Funding for Emission Inventories and Reporting

- Participants expressed concern over the inadequate levels of funding available for emissions inventory development and indicated that EPA should request sufficient Section 103/105 funds for emissions inventory activities (especially $PM_{2.5}$) in its budget request to Congress. EPA personnel indicated that they submitted proposals for 105 and 103 grant funds to be used for emissions inventory development. However, funds are submitted to states as block grants and often get spent on different projects than the original designation. The EPA Regional Offices can only suggest to states where to spend these funds. There is a need to communicate funding needs for emissions inventories to upper management levels at state agencies so funds can be used efficiently. In addition, EPA and State and Territorial Air Pollution Program Administrators/Association of Local Air Pollution Control Officials (STAPPA/ALAPCO) must work hand-in-hand to obtain the appropriate funding levels and develop mechanisms to spend funds efficiently where they are best used. Finally, state emissions inventory staff must lobby hard and market their programs within their states to obtain the appropriated funds.

- Participants expressed concern that some EPA Regional Offices are understaffed and should acquire appropriate emissions inventory personnel.

- All participants agreed that their agencies are short on emissions inventory staff. Moreover, they indicated that emissions inventories are short-term activities, making the hiring of staff difficult. One proposition was to use the support of outside contractors experienced in the development and quality assurance of inventories, as was the case in developing the 1990 inventory.

- One participant inquired about EPA's position on state agencies using Title V fees for the purpose of emissions inventory development effort. EPA staff explained that Title V fees can be used for the development of emissions inventories for point sources only. The use of these fees to fund other inventory efforts is problematic.

- Competing emissions inventories are affecting state resources. One participant suggested that a consolidation of emissions inventory requirements would result in greater consistency and save on resources.

Improving the Role of EPA Regional Offices in Providing Guidance on Emissions Inventories and Other Issues

- Some participants indicated that EPA Regional Offices do not seem to be consistent in providing guidance on emissions inventory development and issues. Various sections within the same Regional Office must improve their internal communications. Moreover, EPA headquarters needs to stress consistency across Regional Offices.

- There is a need for EPA headquarters to provide the Regional Offices with guidance on their role in the emissions inventory development process. It appears that some of the EPA headquarters guidance to state and local agencies is getting lost in the channels. More emphasis is needed on EPA coordination and communication with state agencies through organizations such as the Mid-Atlantic Regional Air Management Association (MARAMA), Northeast States for Coordinated Air Use Management (NESCAUM), and Western States Air Resources Council (WESTAR). EPA staff suggested that communication between the Regional Offices and state agencies can be improved if states take the initiative and inform headquarters if they were getting better responses from headquarters than they were from the Regional Offices. It was also suggested that EPA hold a national meeting for division managers at state agencies specific to emissions inventories.

- Options on how to communicate directly with state agency staff were discussed and included the use of the CHIEF list server. Such a mailing list can be used to e-mail inventory staff at the state agencies every time that EPA headquarters sends

guidance and policy statements to the Regional Offices. Users can also indicate what issues they would like to be notified about. Participants agreed that such mailings should target the managers of each emissions inventory development unit at the state agency. Another option is to communicate with inventory staff through regional organizations as described above. A third option is to post new information on EPA's EFIG web page under "*What's New*" and on the CHIEF web site under "*Hot News.*" The STAPPA/ALAPCO web site will soon include a web page to advise state and local agency managers on emissions inventory issues and their importance.

Choice of a Base Year

- The issue of what is the appropriate base year is open to discussion. However, the final decision will be left to EPA modelers.

- The constraint in the proposed base year is the result of the entire promulgation process being driven by statutory limitation. There will be no time to develop the necessary tools and guidance documents and still meet the statutory constraints.

- One participant recommended that the proposed base year be aligned with the inventory years of other programs in order to ensure consistency across inventories and in order to use resources more efficiently.

- One participant indicated that a 1996 base year inventory will be extremely difficult to develop because of area sources. Area source surveys are difficult to conduct a few years after the fact, especially given the level of effort needed for developing an accurate inventory that will be used for regulatory purposes. In response to a suggestion to build on and improve the 1996 periodic emissions inventory, one participant indicated that such an inventory may not be sufficient geographically for purposes of the new NAAQS.

Timing of $PM_{2.5}$ and Ozone Inventories and Milestones

- Participants requested that EPA develop a single document on how to prepare a $PM_{2.5}$ emissions inventory, and that training accompany the document. EPA staff said that EFIG is developing a requirements document that discusses specifics, timelines, role of EPA Regional Offices, role of EPA headquarters, areas that need to be covered in the inventory, etc. This requirements document will be available in December 1998. Moreover, the EIIP $PM_{2.5}$ Committee is preparing a White

Paper identifying the state-of-knowledge for $PM_{2.5}$. There will be no procedures document that would consolidate all the resources necessary for the development of a $PM_{2.5}$ inventory. Another source is the Air CHIEF CD-ROM 6.0, expected to be available in October 1998.

How Do States That Have Not Been Developing Emissions Inventories Get Started on an Emissions Inventory?

- Participants requested that training in the form of a workshop or short course and guidance be provided for states getting started on emissions inventory development. They want to know how to get started, what materials are the most helpful, and what data from EPA databases can be used in the development of the SIP inventories. EPA staff indicated that the NET database may be used as a starting point in identifying sources of emissions. State agencies may want to allocate their resources to inventory emissions from most significant sources while using the NET data as a gap-filling tool for less significant sources of emissions.

What Is an Appropriate Starting Point for a $PM_{2.5}$ Inventory?

- Participants requested that EPA develop a "how to get started" document for $PM_{2.5}$ emissions inventory preparation to support the 1999 emissions inventory effort. EPA staff said that procedures for estimating $PM_{2.5}$ emissions were developed for the NET database but not published. $PM_{2.5}$ emissions in the NET used state-specific data when available, and the "PM calculator" was used when state-specific data were not available. This method worked well for some sources but not others. For mobile sources, the PART5 model and other documentation from the Office of Mobile Sources (OMS) were used. In summary, the following approach can be used in starting on a $PM_{2.5}$ inventory:

    - ♦ Point sources: use the PM calculator;
    - ♦ Area sources: use the NET database; and
    - ♦ Mobile sources: use PART5 model.

- State inventories of $PM_{2.5}$ from the NET can be obtained by calling the Info CHIEF Help Desk at 919-541-5285. However, EPA needs to make the procedures used for the $PM_{2.5}$ and NH_3 portions of the NET available to the states.

Pollutants To Be Reported, Units, and Format of Data Reporting

- The proposed Consolidated Reporting Rule requires that PM_{10} and $PM_{2.5}$ emissions be reported. Participants indicated that those reporting requirements may not always agree with what state regulations require. Some states require that PM_{10} be reported, not PM, and as a result state regulations may need to be updated.

- Participants asked for clarification on whether NO_x or nitrogen dioxide (NO_2) must be reported, and whether sulfur oxides (SO_x) or SO_2 must be reported. EPA acknowledged that this issue has not been resolved.

Reporting Thresholds for HAPs

- The proposed reporting rule lists 52 HAPs although EPA is responsible for all 188 HAPs. For states where one or more of the 52 pollutants are not particularly of concern, the state must not limit itself to these pollutants and instead it must use judgement and target sources that are of interest in its area. EPA will accept any HAP data in addition to the 52 HAPs listed in the rule. Participants suggested that the proposed rule prioritize toxics by including more than a single list.

- Participants suggested that the rule include clarification of the lists of metals and other generic HAPs to identify what compounds are covered in these generic categories.

Consolidated Reporting Rule: Who Is Reporting to Whom?

- Some participants indicated that EPA, in its proposed rule, is requiring the states to submit less data than the states have historically collected from industry. As a result, state representatives are concerned that industry will be less willing in the future to provide information that is not mandated or required by EPA. EPA staff responded by saying that EPA is not proposing any changes to what states collect from industry, but only what EPA needs from states to do its job.

- The rule does not extend to industry reporting to states. Facilities with continuous emissions monitoring (CEM) could report directly to EPA. Facilities with CEMs reporting under the NO_x SIP calls will be able to report directly to EPA under the reporting rule.

Modules for Data System Development

- Participants requested that EPA helps states develop generic data management systems that states can tailor to terminology familiar to facilities.

- The Consolidated Reporting Rule includes the minimum data elements that EPA needs. Participants indicated that they need more data elements for their state programs than are proposed in the rule, especially for the purposes of quality assurance. They recommended that EPA build on what is currently in the rule, and include additional reporting elements that states need for their programs.

- Participants are concerned that because EPA is asking for less data from the states, the state legislatures may reduce funding accordingly to their agencies.

- Participants wanted to know what was needed for emissions inventory purposes and what was needed for modeling purposes so they can ask facilities in their areas for all the information at one time.

Air Toxics

Moderated by Laurel Driver and Anne Pope

At the beginning of each air toxics session, Ms. Pope provided an overview of current air toxics activities and the importance of the 1996 NTI. She emphatically urged state and local agencies to submit air toxics inventory data to help populate the 1996 NTI. As was stressed on the previous day, EPA prefers to use state and local data over most data sources because they most accurately represent air toxic emissions on a local level.

Major issues that were discussed, questions, and action items on these topics are summarized below.

1996 National Toxics Inventory

- Participants asked what inventory year states should report for the 1996 NTI, what sources will be covered, and what types of inventory data are needed. EPA responded that states should provide 1996 base year data for major, mobile, and

area sources. EPA needs facility-specific data for speciated HAPs (not total HAPs). For HAPs that can be represented under more than one name (this is common for metal HAPs), report the HAP name or CAS number with the most refined description. The facility-specific data (facility location, stack parameters, etc.) should be complete enough for modeling purposes. States can provide actual annual emissions even though maximum hourly emissions are preferred.

- Participants asked when the 1996 NTI will be completed and how often the NTI will be updated. EPA responded that the draft version of the 1996 NTI for major (point) and onroad mobile sources will be completed on September 30, 1998. While the 1996 NTI is in a draft version, state and local agencies will be able to provide revised, additional, or new 1996 air toxics data to EPA. These data will be incorporated in the final 1996 NTI.

  The draft version of the area and nonroad mobile portions of the 1996 NTI will be completed by March 1, 1999. On March 1, EPA will supply states with a CD of the complete (major, area, and mobile sources) draft 1996 NTI for review. A 3-month review period will follow and the final 1996 NTI will be released by September 30, 1999.

  The NTI will be on a 3-year cycle (e.g., 1996, 1999, 2002) for updates and revisions. EPA intends to have the NTI dates coincide with SIP inventory requirements.

- Participants asked how states that have not provided any air toxics data should prioritize data collection efforts. EPA answered that for the 1996 NTI, states should focus on completing major (point) sources. EPA can fill in data gaps for area and mobile sources if absolutely necessary.

- Participants asked when EPA will publish the 1990 air toxics "hot spots" that are based on CEPI modeling and how they will be used. EPA responded that in December 1998, EPA will publish journal articles showing national maps of hot spots based on CEPI modeling. The hot spots will be identified at the census tract level. The hot spots will be based on modeled air toxics exposure concentrations and the comparison of these concentrations to established health impact reference points. EPA will use hot spots for residual risk, exposure modeling, and other analyses.

- Participants asked if EPA could postpone the CEPII modeling for base year 1996 until more complete air toxics inventory data are available. EPA stated that EFIG has no control over the 1996 modeling schedule, yet EFIG must meet the deadline. For this reason, EFIG is urgently requesting air toxics data from state and local agencies so that the best available 1996 data are used for the modeling.

Some states (or counties in some states) that do not provide air toxics data might show up inaccurately as hot spots, depending on how data gap filling is completed for each state.

- Participants asked why the 1996 NTI is needed to do a residual risk analysis. They also asked for more information about the Residual Risk Program. EPA replied that Section 112(f) requires EPA to do a risk analysis 8 years after promulgation of a MACT standard. For this reason, the Residual Risk Program needs facility-specific data in order to do the risk analysis. The draft risk analysis report to Congress is available; however, the comment period is over. The draft residual risk report is available at the following web site address: **www.epa.gov/ttn/oarpg/t3/reports/rrisk.pdf**. The report will become final on February 1, 1999.

Current Data Collection Efforts for HAP Inventories

- There is no authority for states to collect air toxics (HAP) data; however, many states are able to obtain HAP data voluntarily from facilities via Title V permits. AIRS, TRI, and MACT programs are other sources of HAP information. Most of these data resources only cover major (point) sources.

- Some states request only hardcopy data from facilities, whereas other states obtain data in both hardcopy and electronic formats. For example, approximately 250 out of 2,100 facilities in Texas submit data electronically. In South Carolina, most of the facility information is received electronically. States that receive most data electronically are able to spend more of their resources on data management and quality assurance. Microsoft® Access, Microsoft® Excel, and dBASE® are common software repositories. Most of the data are organized at the facility level.

- In states where HAPs are inventoried, a majority of Title V facilities self-report these HAP emissions. For some states, all of the Title V facilities self-report the HAP emissions. However, states must calculate HAP emissions for smaller facilities with limited resources or knowledge.

- Programs for collecting HAP data vary significantly from state to state. Some air toxics programs are a part of the criteria pollutant program, some are incorporated into the enforcement program, and some are a part of the permitting program, whereas others are integrated with the MACT program. For states with a separate air toxics program, interagency cooperation, coordination, and information exchange is necessary and extremely beneficial.

- Most states collect HAP data only for major sources and some area sources. Only a few states collect HAP data for mobile and area sources.

HAP Inventory Obstacles

Workshop participants discussed the obstacles that prevent state and local agencies from collecting complete HAP inventory data. The primary problems identified are summarized below.

- No authority or federal mandate for states or local agencies to collect HAP data—an overwhelming majority of attendees stressed the need for authority to collect HAP data. Without this authority, it is unlikely that any state will be able to develop a complete and comprehensive HAP inventory. One attendee said that EPA should develop a rule for states to adopt that would mandate the collection of air toxics inventory data.

- Limited budgets—most participants indicated that their upper management does not view air toxics as a priority and therefore allocates limited funds for toxics programs. State and local agencies must first complete work efforts on mandated projects. If there is no mandate for air toxics, it will not be a priority at the state or local level. One participant suggested that EPA's upper management should speak directly with each state agency's upper management to convey EPA's priorities. Many other attendees said that EPA should provide more funds specifically earmarked for state and local agencies to spend on air toxics.

- Limited reporting requirements and reporting thresholds—states with less stringent reporting thresholds are not able to obtain complete HAP data (e.g, threshold of 1 ton/year), thus providing incomplete HAP emissions. Some states require facilities to report only total HAPs or total VOCs. The number of HAPs that facilities must report varies for each state. Attendees commented that the 1996 NTI will not be consistent at a national level or when comparing one state or region to another because states have different reporting requirements and thresholds.

- Lack of technical support and qualified individuals with HAP inventory expertise—several states have a cap on how many staff members they can hire, have limited software options, and receive little training on HAP inventories.

- Lack of guidance on air toxics—attendees said that EPA should publish guidance on how to compile HAP inventories, provide training on how to collect and manage HAP data, and develop more HAP emission factors.

- Inability to speciate HAPs for some sources—facilities are unable to speciate HAPs for complicated processes like surface coating. The onus is then on the state or local agency to speciate the HAP emissions. For some processes, there is no guidance (method or emission factor) to speciate HAP emissions.

- Inadequate data management—attendees stressed the lack of resources to properly manage electronic HAP inventory data. Resources that would facilitate the urgent need for streamlined data management include: training, more qualified personnel, software/computer upgrades, and specific direction from EPA on what data formats will be most amenable to future HAP inventory requests.

- Inability to identify sources—it is difficult for states and local agencies to identify HAP emission sources that are not required to report through the Title V program. Most states need more guidance from EPA on how to identify area sources.

- Poor communication among EPA headquarters, EPA Regions, and state and local agencies—most participants agreed that EPA should improve the communication lines between EPA and states. STAPPA/ALAPCO is a possible vehicle for states to communicate needs and concerns; however, participants said that EPA must clearly explain program priorities to EPA regions and each state.

Suggestions for Filling Data Gaps in the 1996 NTI—Primarily for Major Sources

Workshop participants discussed how EPA could estimate toxic emissions for the 1996 NTI where data gaps exist, either for an entire state, county, particular source category, or HAP. The suggestions provided by attendees are summarized below.

- Supplement with MACT data;

- Supplement with TRI;

- Confirm 1996 NTI data with monitoring data (Photochemical Assessment Monitoring Stations or PAMS);

- Use a top-down approach for missing categories and entire regions;

- Speciate total VOC data using FIRE;
- Develop default stack parameters for some industries (possibly using MACT information);
- Concentrate gap-filling efforts on the largest sources of air toxics; and
- Use data from other state inventories to develop default information.

Participants asked EPA to consult with them on any major assumptions and data gap-filling procedures that are applied to their state or local agency because they (participants) will readily know whether the assumptions or defaults being applied to their area are appropriate.

Data Management and the New SCC System
Moderated by Lee Tooly and Ron Ryan

During the discussion sessions, participants were given the opportunity to provide feedback on both the suggested changes to the SCC system and the current electronic data transfer options.

Unlike the other sessions, the moderator posed questions to the audience. The answers and discussions held on each of these topics is presented below.

Changing the SCC System (Ron Ryan)

What problems do states have with the current system? What features would states like to see in the new system?

While no new issues with the current system were identified, there seemed to be a general consensus that the current SCCs are problematic, and a change is needed.

In addition to the mapping table and the proposed PCC software system, what other tools should EPA make available to help states in the conversion?

- One suggestion was that the EIIP SCC Subcommittee look at some existing software called "SCC-SCOUT" done in the State of Louisiana that may have some helpful design features.

- Another suggestion was to enable the software tool to do "batch searches." This would allow a user to enter 30 to 50 current SCCs in batch mode, and have the software respond with the suggested codes from the new system.

What other state databases or programs make use of the current SCC system?

Several other uses/databases employing the current SCC system were identified including historical/trends data, model preprocessing software packages (Emissions Modeling System or EMS, Emissions Preprocessor System or EPS, and MODELS3), and proprietary emissions estimation software. These will all need to be updated to reflect the new coding system.

What is the estimated time frame for states to be able to switch from using the current SCCs to the proposed PCCs?

Responses ranged from 1 to 5 years. However, several participants commented that until EPA or another regulatory agency requires the use of the new codes, there will be some resistance to spending the required resources to switch over.

Participants asked the following questions:

Will every possible combination of the four data elements be allowed?

As a first cut, EPA will limit the codes to approximately mirror the current number of codes in the SCC system. This is approximately 10,000 codes. However, Mr. Ryan repeatedly stressed that he wishes to streamline the procedure by which new codes will be allowed.

Will miscellaneous (999) codes be allowed?

Several participants stated that they thought the miscellaneous codes should remain in the new system. The two reasons given for this were:

- 999 codes would enable users to put in a "placeholder" until an appropriate new code could be assigned; and
- 999 codes allow for confidentiality of data.

What does EPA plan to do as far as "outreach" when the new system has been finalized?

In addition to posting the updated materials on the CHIEF World Wide Web page, a targeted e-mail list should be developed that would include state, local, and EPA regional emissions inventory and AFS coordinators.

Data Transfer Options and the NET Database (Lee Tooly)

In order for states to successfully submit their data electronically to EPA, what else is needed from EPA?

- One suggestion was that the "step-by-step" process for submitting data be outlined for each of the transfer options. Ms. Tooly plans to update the PEI web page with this information and will address the following issues:

- ♦ What file transfer protocol (FTP) procedures can be used?
- ♦ What types of files are acceptable?
- ♦ What is the window of opportunity for submitting 1996 data to EFIG?

- EPA will also provide the QA/QC checks that EFIG expects to do on each incoming dataset. Also, the structural query language (SQL) programming for QA/QC may also become available.
- EPA needs to clarify the role that the EPA Regional Offices will play in submitting the 1996 periodic inventory to EFIG.
- Several participants commented that EFIG should keep things static. Changes in the SCC system, toxics, $PM_{2.5}$, etc., make it difficult for states to "find their target."
- EPA should clarify how long the AIRS/AFS format will be supported.

Are there other impediments states have for submitting their data electronically to EFIG? How can such impediments be overcome? Who must be involved?

Several participants noted that it is difficult to send their data to EPA due to a lack of a good in-house data system with which to start.

How much QA/QC do states expect to perform on their data prior to submitting it to EFIG?

In general, state and local agencies anticipate accomplishing their routine QA/QC steps prior to sending their 1996 data to EFIG for public availability. However, in reality, time and budget constraints may affect what actually gets done.

How will confidential data be handled?

EFIG does not want confidential data and cannot ensure the data will remain confidential. In terms of point source submittals to AIRS/AFS, such "state sensitive" information is still

supported and will not be included in any data transfers made from AIRS/AFS to the NET. Hopefully this will not prove problematic to the modelers' use of the NET data.

Section 4

Closing Remarks

Following the group discussions, the moderator(s) of each discussion presented a brief summary of the discussion, comments, and questions.

New NAAQS and the Proposed Consolidated Emission Inventory Reporting Rule

Steve Bromberg, EPA, Emission Factor and Inventory Group

Mr. Bromberg summarized the common themes and recommendations discussed:

- States and local agencies need additional resources for the increased inventory effort;
- It must be ensured that any additional resources are allocated to the inventory program;
- There is a need for better communication—within EPA, between the Regional Offices and the states, and within and between the states;
- There is a need for a single "get-started" document for $PM_{2.5}$ emissions inventory;
- EPA needs to define the ozone base year as soon as possible;
- There is a need for consistency from region to region in inventory guidance;
- There is a need for consistency in data collection; and
- STAPPA/ALAPCO and other state organizations should be solicited to help on improving communications between EPA Regional Offices and the state and local agencies.

$PM_{2.5}$ Overview

Tom Pace, EPA, Emission Factor and Inventory Group

Mr. Pace summarized the common themes and recommendations discussed:

- EPA should provide "getting started" information including:
  - ♦ A general overview of $PM_{2.5}$ and what needs to be done to produce an emission inventory; and
  - ♦ Information about what tools exist and how to use them.
- States need $PM_{2.5}$ emission factors and control efficiencies;
- States need a clear mandate to inventory NH_3 in order to get funding;
- States need training, especially with the ASEM. Participants noted that they prefer on-site workshops over satellite training;
- States need a test method that includes condensables;
- EPA should explore the use of GIS data for area source inventories;
- There is a need for better communication—within EPA, between the Regional Offices and the states, and within and between the states;
- States want EPA to send money, guidance, and the ASEM; and
- Mr. Pace emphasized that state and local agencies should start planning and characterizing $PM_{2.5}$ sources NOW.

National Air Toxics Emissions Inventory

Laurel Driver and Anne Pope, EPA, Emission Factor and Inventory Group

In closing, Ms. Pope and Ms. Driver summarized the major recommendations regarding air toxics that were made to EPA during the 2-day workshop. The five major recommendations are as follows:

- EPA's upper management should become more actively involved with counterparts at the state and local levels in all aspects of air toxics emission inventory activities.

- EPA should clearly communicate the hierarchy of importance of competing emission inventories.

- EPA should provide state and local agencies with a contact list of people involved with air toxics and other related inventory activities to promote an exchange of knowledge, experience, and information.

- EPA should publish a guidance document on how to compile an air toxics emission inventory, including preferred data formats and elements.

- EPA should help galvanize EPA Regional Office roles regarding air toxics activities.

Data Transfer Options and the NET Database

Lee Tooly, EPA, Emission Factor and Inventory Group

Ms. Tooly summarized participant responses to questions she had posed during the group discussions:

What more do you need?

- List of steps for data submittal;

- Identification of file types;

- Identification of the deadline for 1996 data;

- List of the quality control checks that EPA plans to do;

- Possibility to share EPA routines for quality control;

- Clarification of the role of EPA Regional Offices in the electronic data submittal process;

- Clarification of how long the AIRS format will be supported; and

- One data format and submittal procedure. Participants requested that EPA stop changing formats and procedures. Ms. Tooly noted that changes will be required to accommodate PCCs, air toxics, and $PM_{2.5}$.

What are the impediments to electronic data transfer?

- No specific items were identified though good in-house data systems are needed for some sources; and

- The AIRS group is working on a clearinghouse list of available data programs.

Can states perform quality assurance/quality control checks in time to submit the data?

- Participants hope so, but expressed concerns about time and money constraints.

Is EPA requesting confidential business information (CBI)?

- Possibly, it depends on the definition of CBI;

- The NET cannot support CBI. The state-sensitive data in AIRS/AFS will not be pulled into the NET; and

- Data gaps will arise because of CBI issues. Ms. Tooly stated that she planned to discuss the issue with the modelers.

Changing the SCC System

Ron Ryan, EPA, Emission Factor and Inventory Group

Mr. Ryan summarized participant responses to questions he had posed during the group discussions:

What tools will help with the transition?

- Mapping table (planned by EPA);
- Look-up software (planned by EPA); and
- Active/batch program to search.

What programs rely on the current SCCs?

- Vendor software;
- TRENDS inventories—this raises the issue of how to perform consistent comparisons; and
- Model preprocessers.

What is the time frame for states to make the transition to use of the new codes?

- Estimates ranged from 1 to 5 years; and
- Most states will not begin to make the transition until EPA presents a deadline for "pulling the plug" on SCC support.

Issues raised by participants:

- Will there be a finite number of rational combinations to define a code? Mr. Ryan stated that there is a need to balance flexibility and reality; QA/QC is in progress.
- Will miscellaneous codes (999) be allowed? Mr. Ryan stated that no decision has been made but allowing miscellaneous codes will protect confidentiality and speed up the process when a code does not exist.
- Communication needs to be improved. Participants suggested a targeted e-mail list.

Appendix A

Final Workshop Participant List

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